

**What is Claimed is:**

1. A predistortion circuit comprising:
  - an input terminal for inputting a predetermined signal;
  - a nonlinear device directly or indirectly connected to said input terminal;
  - a bias supply circuit for applying a voltage to said nonlinear device;
  - specific-frequency suppressing means connected to one side or both sides of said nonlinear device directly without another intervening device and of suppressing all or part of such frequencies that are from a frequency corresponding to DC to a frequency corresponding to an occupied band width of an input signal inputted to said input terminal and/or suppressing at least one higher harmonic frequency of a carrier wave of said input signal; and
  - an output terminal for outputting a signal.

2. A predistortion circuit of Claim 1, wherein said specific-frequency suppressing means has such impedance that the impedance of said specific-frequency suppressing means viewed from the connection point to which said specific-frequency suppressing means is connected is lower than the impedance of said nonlinear device viewed from said connection point at all or part of such frequencies that are from said frequency corresponding to DC to said frequency corresponding to said occupied band width and/or at least one higher harmonic frequency

of a carrier wave of said input signal.

3. A predistortion circuit of Claim 1, wherein said nonlinear device is provided between the connection point between said input terminal and said output terminal and the ground.

4. A predistortion circuit of Claim 1, wherein said nonlinear device is connected between said input terminal and said output terminal.

5. A predistortion circuit of Claim 1, wherein: said nonlinear device is a transistor; said input terminal is connected to any one of the drain and the source of said transistor; said output terminal is connected to the other of the drain and the source of said transistor; and said bias supply circuit is connected to the gate of said transistor.

6. A predistortion circuit of any one of Claims 1 to 5, wherein said specific-frequency suppressing means comprises the all or a part of a resistor, a coil, a capacitor, and a transmission line.

7. A predistortion circuit of any one of Claims 1 to 4, wherein said nonlinear device comprises a diode.

8. A predistortion circuit of any one of Claims 1 to 4, wherein said nonlinear device comprises a transistor.

9. A power amplifier comprising: a predistortion circuit of any one of Claims 1 to 5; and an amplifier for amplifying the signal from said predistortion circuit.

10. A power amplifier of Claim 9, wherein said amplifier

comprises:

- an input terminal for inputting a signal;
- a first matching circuit connected to said input terminal;
- a transistor the gate of which is connected to said first matching circuit;

- a second matching circuit connected to the drain of said transistor;

- an output terminal connected to said second matching circuit and for outputting a signal;

- a first bias circuit connected between said first matching circuit and said transistor;

- a second bias circuit connected between said second matching circuit and said transistor; and

- specific-frequency suppressing means connected to one side or both sides of said transistor directly without another intervening device and of suppressing all or part of such frequencies that are from a frequency corresponding to DC to a frequency corresponding to an occupied band width of an input signal inputted to said input terminal and/or suppressing at least one higher harmonic frequency of a carrier wave of said input signal.

11. A power amplifier of Claim 10, wherein said amplifier comprises:

- an input terminal for inputting a signal;
- a first matching circuit connected to said input terminal;

a transistor the base of which is connected to said first matching circuit;

a second matching circuit connected to the collector of said transistor;

an output terminal connected to said second matching circuit and for outputting a signal;

a first bias circuit connected between said first matching circuit and said transistor;

a second bias circuit connected between said second matching circuit and said transistor; and

specific-frequency suppressing means connected to one side or both sides of said transistor directly without another intervening device and of suppressing all or part of such frequencies that are from a frequency corresponding to DC to a frequency corresponding to an occupied band width of an input signal inputted to said input terminal and/or suppressing at least one higher harmonic frequency of a carrier wave of said input signal.